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ABSTRACT

The purpose of this study is to examine the relationship between stereotypic sex role attitudes of classroom teachers and stereotypic reinforcement behaviors towards students. Thirty-three white female preservice and inservice elementary and secondary teachers participated in this study. A projective attitude instrument, written classroom simulation, behavior observations, and questionnaires were used in this study. The results indicate that stereotypic sex-role attitudes are not related to stereotypic sex role behaviors, nor are the relationships between attitudes and behaviors consistent across high and low stereotypic feminine teachers. Further, stereotypic sex-role attitudes are not related to grade-level specialty. (Authors)

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The Relationship Between Teachers' Sex Role Attitudes and Stereotypic Reinforcement of Student Behaviors

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Abstract

The purpose of this study was to examine the relationship between stereotypic sex role attitudes of classroom teachers and stereotypic reinforcement behaviors towards students. Thirty-three white female preservice and inservice elementary and secondary teachers participated in this study. A projective attitude instrument, written classroom simulation, behavior observations and questionnaires were used in this study. The results of this study indicate that stereotypic sex-role attitudes are not related to stereotypic sex role behaviors. Nor are the relationships between attitudes and behaviors consistent across high and low stereotypic feminine teachers. Further, stereotypic sex-role attitudes are not related to grade level specialty.

In American society, men and women are systematically trained for different sex roles (Fasteau, 1972; Maccoby and Jacklin, 1974). These sex roles are identifiable as stereotypes; that is, there exist highly consensual norms and beliefs about different characteristics of women and men (Broverman, et al, 1970). The behavioral manifestations of adult stereotypic sex roles are often subtle, such as females being more submissive, less independent, less adventurous, and so on. At other times, they are more obvious, as in the athletic competition of men (Maccoby and Jacklin, 1974).

Contemporary life has brought important changes to the economic and social status of women. However, many women have retained their stereotypic sex role. These roles may serve as security to some, but they also appear to inhibit the aspirations and actions of many. For example, stereotypic sex roles create a significant discrepancy between female and male occupational aspirations. Courtois and Sedlacek (1975) reports that both men and women feel that male success is more expected and believed in our society than is the success of women. Thus, for many women, the societal expectations which foster sex role stereotyping prevent them from achieving social and economic parity with men.

The existing research in the area of sex role stereotypes has emphasized the presence of clearly delineated and relatively rigid roles in pre-adolescent children (Kegan and Moss, 1962). Indeed, children enter school with pronounced stereotypic sex

role behaviors. Thus, the effects of the family on the development of sex role identification is evident.

A study by Looft (1971) presents rather dramatically the early effects of stereotypic sex role identification on career aspirations. A sample of six to eight year old children were asked what they wanted to be when they grew up. Results showed that 75% of girls' responses in this age group were in two categories: teacher and nurse. The two more popular categories for boys, football player and fireman, were selected by less than 10% of boys. In all, eighteen potential occupational categories were elicited from the males in the sample, eight from the girls.

Looft's study of first and second grade children indicates the extent of parental influence on stereotypic career aspirations. However, the effects of schooling on the sex role identification of pre-adolescent children are also important. Nickerson (1975) specifically states that schools are a major agent in the socialization that leads to discrimination against women and to sex role stereotyping for both women and men. Within the learning environment, teacher modeling may be of critical importance in the internalization of stereotypic sex roles (Brophy and Good, 1974).

The nature of the teaching profession is sufficient for it to be described as a stereotypic feminine occupation. Thus, one would expect to find that teachers are individuals who express stereotypic feminine sex role attitudes and who demonstrate

congruent behaviors. Further, one would expect that stereotypic feminine sex role attitudes and behaviors would decline as grade level assignment increases.

The purpose of this study was threefold. First, the relationship between teachers' stereotypic feminine sex role attitudes and behaviors across grade levels was examined. Second, the consistency of these relationships across high and low stereotypic feminine groups was examined. Third, the relationship between stereotypic feminine sex role attitudes and behaviors with other teacher characteristics was examined.

Method

Sample

The subjects recruited for participation in this study represented a sample of convenience. The thirty-three white females were enrolled in either undergraduate or graduate teacher education programs at a private southern university (where this research took place) during 1976-77. All the subjects were less than forty years of age. Nineteen were married, but only three reported having children. Ten subjects were undergraduate preservice seniors. Of the twenty-three subjects enrolled in advanced degree programs, thirteen were teachers with from one to eight years of teaching experience. Only five had taught for five years or longer. The majority of participants were or were training to be elementary teachers. (See Appendix A for a detailed tabular presentation of the demographical characteristics of the sample.)

Instrumentation

Attitude Measures. Stereotypic feminine sex role attitudes were measured in terms of general stimuli and stimuli specific to the classroom teaching environment. The Vance Richards Verbal Fluency Test (KR_{20} = .65) and the Freidin Power Questionnaire (KR_{20} = .64) were developed following Getzels and Walsh (1958). (See Appendices B and C for these instruments.) The Getzels and Walsh paradigm was selected for use in this study in order to estimate the effects of social desirability on the expressed attitudes of the respondents. Items for these measures were derived from masculine and feminine stereotypic characteristics reported by Broverman, et al (1970), which are relevant to the teaching/learning environment (see Table 1).

Insert Table 1 About Here

The Vance Richards was introduced to the sample as a verbal fluency test in an attempt to disguise the projective nature of the instrument. Consistent with this disguise, the sample was encouraged, through both written and verbal instructions, to complete the instrument within twenty minutes. The instrument was administered during a regularly scheduled class meeting by the course instructor. The total score (possible = 49) for each respondent was the total number of stereotypic feminine responses.

The Freidin Power Questionnaire (possible = 48), a parallel direct form of the Vance Richards, was administered to the sample as a questionnaire. This instrument contained first person forms of the third person items found in the Vance Richards.[1]

The scores from the Freidin Power Questionnaire were used to estimate the effect of social desirability of responses to the Vance Richards Verbal Fluency Test (following Getzels and Walsh, 1958). The .39 correlation reported between these two instruments indicates that the sample did not respond to each instrument in a parallel manner. Further, a comparison of the means and standard errors (see Table 2) for both tests indicates that the direct approach,

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Insert Table 2 About Here

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i.e., the Freidin Power, elicited a lower average stereotypic feminine response level (α= .32) than did the projective approach, i.e., the Vance Richards.

Although these means are not significantly different at the .05 level, these differences in average performance coupled with the reported correlation coefficient suggest that expressed attitudes were not consistent across direct and projective measures. However, both measures were included in the analyses as significant differences (α = .05) were not reported.

The Classroom Simulation (KR_{20} = .81) was developed to measure teachers' reinforcements of stereotypic sex roles in students

during academic and social school activities. The instrument describes a fifth grade classroom, including brief characterizations of the students (16 boys and 16 girls). One situation was described in detail for which the respondents were asked to identify individual students for forty specified roles. Each of the role assignments was scored "stereotypic" or nonstereotypic" based on consensual validation of a panel of judges. The total score represented the teachers' projected behaviors in the classroom. (See Appendix D for a copy of this instrument.)

Behavioral Observations. Classroom observations were used to examine the following types of interaction:

1. Recognition of Female Volunteers (proportion of total volunteer recognition)
2. Directed Questioning of Females (proportion of total directed questions)
3. Positive Responses to Student Answers (proportion of total responses)
4. Giving Directions (proportion of observed time spent in this behavior)
5. Lecturing Behavior (proportion of observed time spent in this behavior)
6. Justifying Authority (proportion of observed time spent in this behavior)

Classroom observations categorized as area 1 or 2 above were considered to be indicators of teacher preferences for female participation in academic processes. Classroom observations categorized

area 3 above were considered to be samples of nurturing behavior. The last three categories represented were thought to represent authoritarian, i.e., stereotypic masculine, behaviors.

The Roots Observational Analysis system was developed to examine categories one through three above. The Flanders Interaction Analysis system was used to examine the remaining three categories (see Appendices E and F for these instruments).

Each subject was observed for a minimum of twenty minutes during an academic period. Interrater reliability was maintained at .90 throughout the observations. Event sampling was used with the Roots system and time sampling was used with the Flanders system.

The inclusion of each attitude and behavior measure in the analyses was based on their independence as demonstrated in Table 3.[3] Only the correlation between the Freidin Power and the

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Insert Table 3 About Here

Vance Richards and between Giving Directions and Recognition of Female Volunteers are significant. Thus it was assumed that sufficient lack of linear relationships had been demonstrated to justify inclusion of these variables in the analyses.

Procedures

This study took place during April and May, 1977. As the sequencing of the administration of instruments and observations

was important to the internal validity of this study, an attempt was made to plan the research schedule so that data gathering events did not provide the respondents with assumptions about expected responses to succeeding events. Thus, the Vance Richard Verbal Fluency Test was administered during the first week of the study. Observations were made during the second, third, and fourth weeks. The classroom simulation was administered next followed by the Freidin Power Questionnaire.

Hypotheses

In order to examine the relationship between selected stereotypic sex-role attitudes of teachers and their behaviors, the following hypothesis was formulated:

H_1: There is significant positive relationship between multiple measures of teachers' stereotypic sex-role attitudes and multiple measures of their behaviors.

This hypothesis was tested using canonical correlation analysis due to the multivariate nature of attitude and behavior as operationalized in this study.

In order to examine the consistency of the relationship between attitude and behavior across different types of stereotypic feminine respondents, the following hypotheses were formulated:

H_2: There are significant positive relationships among multiple measures of teachers' stereotypic sex-role attitudes and multiple measures of their behaviors across Low and High stereotypic respondents.

H_3: There is a significant negative relationship between grade level specialty and stereotypic feminine sex role attitudes.

These hypotheses were tested by examining the zero order Pearson Product Moment correlation coefficients.[4]

Results and Discussion

In order to examine the relationship between general and specific stereotypic feminine sex role attitudes of teachers and their behaviors towards students, the following hypothesis was formulated:

H_1: There is a significant positive relationship between multiple measures of teachers' stereotypic feminine sex role attitudes and multiple measures of their behaviors towards students.

As reported in Table 4, no linear relationship between the

Insert Table 4 About Here

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attitude and the behavior measures was found at the .05 level of significance. Thus, H_1 was rejected.

Examination of the canonical coefficients, i.e., the correlations between the canonical variates and the original variables, suggests that attitude as measured by the Vance Richards behaves differently in relation to the linear combination of measures than do either the Freidin Power or the Classroom Simulation. This lends further support to the influence of social desirability on expressed attitudes toward stereotypic sex roles as the Freidin Power and the Classroom Simulation require statements about the respondents' behaviors.

Examination of the behavior measures indicates that the canonical variate for Recognition of Female Volunteers measure has a positive correlation with its original variable while the other behavior measures evidence negative relationships. Thus, the canonical variates for most of the behavior measures become inversely related to their original values. However, caution in interpreting these and the attitude coefficients is required as the canonical correlation was not significant.

An examination of the zero-order correlation coefficients (see Table 3) reveals that behaviors operationalized as either stereotypic feminine (the Roots variables) or as stereotypic masculine fail to relate to stereotypic feminine sex-role attitudes as would be expected. Thus, despite variation in stereotypic feminine sex-role attitudes, variation in stereotypic sex-role behaviors was limited.

In order to examine the consistency of the relations among attitude and behavior measures reported for the total sample (see Table 3) between high and low stereotypic feminine groups, the following hypothesis was formulated:

> There are significant positive relationships among multiple measures of teachers' stereotypic sex-role attitudes and multiple measures of their behaviors.

A median split[5] based on Vance Richards scores was used to dichotomize the high and low stereotypic feminine groups. Pearson Product moment correlations were then calculated within each group (see Tables 5 and 6). Finally, Fisher r to z transformations were

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Insert Table 5 About Here

Insert Table 6 About Here

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done to allow direct comparisons between groups (see Tables 5 & 6).

Among the attitude variables, neither group evidenced a significant correlation between the Vance Richards and the Freidin Power. This may be explained by the small sample size in each group.

The correlations between the Vance Richards with the Classroom Simulation is statistically significant for the Low Stereotypic

group, but not for the High Stereotypic group. This indicates a degree of consistency in expressed attitudes between these measures only among Low Stereotypic subjects.

In contrast, the High Stereotypic subjects evidenced no significant relationships among these attitudinal variables. However, the narrow standard deviation for the Classroom Simulation reported for this group (see Table 5) may account for the lack of a significant relationship between it and the other attitude measures.

An examination of the means and confidence intervals for the Classroom Simulation measure for each group indicates no significant differences. In contrast, significant differences between average attitude scores are reported for the Freidin Power and for the Vance Richards. Thus, the Classroom Simulation does not discriminate between High and Low Stereotypic groups. Coupled with the correlation data, this suggests that this instrument measures something other than stereotypic sex roles as operationalized by the Vance Richards and the Freidin Power. This is further supported by the non-significant correlations between Classroom Simulation and either the Vance Richards or the Freidin Power for the total sample as reported in Table 3.

Among the behavior measures for the High Stereotypic group, a significant negative correlation is reported between Justifying Authority and both the Giving Directions and the Positive Responses measure. For the Low Stereotypic group, significant negative correlations are reported between Justifying Authority and Positive

Responses and between Justifying Authority and Lecturing.

No significant differences between correlation coefficients are reported among either attitude measures or behavior measures across groups. However, the correlation between the Vance Richards and Lecturing behavior is significant for the High Stereotypic group and not for the Low Stereotypic group. Further, a significant difference between these coefficients is reported. Thus, H_2 is rejected although the general pattern among correlations is one of consistency across groups.

In order to test H_3, zero-order correlations between grade level specialty and stereotypic feminine sex role attitudes were calculated.

As reported in Table 7, none of the attitude measures are significantly correlated with grade level specialty. Thus, H_3 is

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Insert Table 7 About Here

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rejected. However, as the correlations between grade level specialty and the Freidin Power and the Classroom Simulation are both negative, further research in this area is suggested. Also of interest is the linear relationship among behavior measures with the descriptive characteristics of the sample. As reported in Table 7, the relationship between Mother's Educational Level and the Vance Richards is significant and negative. Thus, for this sample, the more education obtained by the mother, the lower the stereotypic feminine score.

This result presents evidence found in numerous other studies in which the effects of the primary caretaker, generally the mother, have important and stable effects on the attitudes of children (e.g., Kegan and Moss, 1962).

The significant and positive relationship between number of periodicals to which the respondents subscribed and scores on the Classroom Simulation indicates that magazine subscriptions, of an unspecified quality, are positively related to stereotypic sex role attitudes as measured by the Classroom Simulation. However, the nonsignificant relationships between periodicals and either the Vance Richards or Freidin Power further suggest that the attitudes elicited by the Classroom Simulation measure are independent of those elicited by the other attitude measures. Of added interest is the lack of relationship between the education level of the respondents and their attitudes or behaviors.

In summary, the results of this study suggest the following:

- Stereotypic sex role attitudes are not related to stereotypic behaviors.
- Relationships between stereotypic sex role attitudes and behaviors are not constant across high and low stereotypic groups.
- Stereotypic sex role attitudes are not related to grade level specialty.
- Sex role attitudes are subject to social pressures.

.Both high and low stereotypic feminine females participate in or are preparing for the teaching profession.

.Despite variation in stereotypic feminine sex role attitudes, little variation in the relatively low levels of stereotypic feminine or masculine behaviors occur in the classroom.

.The educational level of the respondents is unrelated to stereotypic sex role behaviors or stereotypic feminine sex role attitudes.

Conclusion

This chapter presents an overview of this study, including conclusions based on the results. In addition, implications for future research and limitations of the study are discussed in detail.

Schools are a major agent in the socialization that leads to discrimination against women in society and to sex role stereotyping (Nickerson, 1975). Therefore, it is important to recognize how educators promote sex-role stereotypes which tend to discriminate against females.

The purpose of this study was to examine the relationship between stereotypic sex role attitudes of teachers and their reinforcement of stereotypic behaviors in school age children. Specifically, the following questions were examined:

1. What is the relationship between teachers'

stereotypic sex role attitudes and their behaviors towards students?

2. Is this relationship consistent across differences in stereotypic sex role attitudes?

3. What is the relationship between teachers' stereotypic sex role attitudes, behaviors, and other descriptive characteristics?

Stereotypic sex role attitudes were measured in terms of general stimuli and stimuli specific to the teaching enviroment. These attitudes were operationalized in terms of stereotypic feminine sex role attitudes as the teaching profession is characteristically described as a stereotypic feminine occupation.

Projective and direct sentence completion instruments, written simulations, and observations of teaching behavior were developed for use in this study. All measures were additive in nature.

A median split based on Vance Richards scores was used to dichotomize high and low stereotypic feminine groups after which Pearson Product Moment Correlation Analysis was used in the test of H_2. Significance tests between correlations reported for both groups were performed following Fisher r to z transformations. Based on significant differences reported for the correlations reported between Lecturing behavior and the Vance Richards measure, H_2 was rejected.

In order to test H_3, zero-order correlations between grade level specialty and stereotypic feminine sex role attitudes were

calculated. However, as no significant correlations are reported among this set, H_3 is rejected.

Limitations

The size and composition of the sample limit the conclusions that can be drawn from this study. In addition, the attitudinal and Roots measures require refinement in order to improve their reliability and validity. Also, the number of observations were limited, thereby restricting the sample of teacher behaviors.

Implications

The results of this study are important for the teacher trainer. Of particular interest is the support for the existence of selected stereotypic characteristics cited by Broverman, et al (1970), among this sample of preservice and inservice teachers. Questions about the relative appropriateness and productivity of stereotypic behaviors in general, across subject areas or grade levels, should be addressed. Perhaps nurturance behavior, as an example of stereotypic feminine behavior, fosters higher affective and cognitive development than do androgynous or stereotypic masculine behaviors. If this is the case, teachers should be trained to include appropriate behaviors in their teaching style.

It appears from this study that there is no congruence between stereotypic feminine sex role attitudes and behaviors among this sample. Further research is necessary to determine whether this is the case, whether the observations did not reflect an adequate sample of teacher behavior, or whether stereotypic behaviors

manifest themselves in ways not studied.

If a societal goal is to eliminate stereotypes, one potent vehicle for this change is through the schools. And this study suggests despite stereotypic sex role attitudes, the associated teaching environments of those individuals are not stereotypic. This may be the desired pattern of relationships between attitude and behaviors desired by a society in which stereotypic sex roles are no longer valued.

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Footnotes

[1]One item which appears with both a masculine and a feminine name in the Vance Richards appears only once in the Freidin Power.

[2]Nurturance, Femininity, and Locus of Control items were derived from Maccoby and Jacklin, 1974.

[3]Additional behavioral variables were excluded from the analyses as they were not directly related to the research questions.

[4]Canonical correlation was not used due to the small sample size of these dichotomized groups and since no significant canonical correlation was reported for the total sample.

[5]Median = 22.375.

Table 1

Stereotypic Sex-Role Items

(Responses from 74 College Men and 80 College Women)

Competency Cluster: Masculine Pole is More Desirable		
Feminine	Masculine	Items[5]
Very emotional	Not at all emotional	49
Does not hide emotions at all	Almost always hides emotions	4,13,27
Very easily influenced	Not at all easily influenced	33
Very submissive	Very dominant	29
Dislikes math and science very much	Likes math and science very much	28,40
Very excitable in a minor crisis	Not at all excitable in a minor crisis	16
Not at all competitive	Very competitive	3,11,17,31, 36,44
Very illogical	Very logical	43,49
Very home oriented	Very worldly	5,7,24,32,46
Very sneaky	Very direct	18
Feelings easily hurt	Feelings not easily hurt	26
Not at all adventurous	Very adventurous	38
Has difficulty making decisions	Can make decisions easily	34,49
Cries very easily	Never cries	27

Table 1. Continued

Competency Cluster: Masculine Pole is More Desirable		
Feminine	Masculine	Items
Almost never acts as a leader	Almost always acts as a leader	6,10,45
Not at all self-confident	Very self-confident	1,2,3,15,29,37
Very uncomfortable about being aggressive	Not at all uncomfortable about being aggressive	34,39
Not at all ambitious	Very ambitious	8
Very dependent	Not at all dependent	17
Thinks men are always superior to women	Thinks men are always superior to women	19,35,47
Does not talk freely about sex with men	Talks freely about sex with men	42
Very talkative	Not at all talkative	12
Very tactful	Very blunt	22
Very gentle	Very rough	23
Very interested in own appearance	Not at all interested in own appearance	25
Very quiet	Very loud	48
Very strong need for security	Very little need for security	24,46
Easily expresses tender feelings	Does not express tender feelings easily	13

Table 1. Continued.

Competency Cluster: Feminine	Masculine Pole is More Desirable Masculine	Items
Nurturance[2]		11,20,41
Femininity		9,14,15,21
Locus of Control		30

Table 2

Descriptive Statistics for Research Measures

Variable	KR_{20}	Mean	Standard Deviation	Standard Error	# Confidence Intervals	N	# Items
Vance Richards	.65	22.24	4.8672	.76	21.48-23.00	41	49
Freidin Power	.64	19.95	5.7376	.93	19.02-20.88	38	48
Classroom Simulation	.81	20.46	5.7393	.92	19.54-21.38	39	40
Recognition of Female Volunteers	N.A.[a]	.40	.0576	.04	.36-.44	36	N.A.
Teacher Questioning of Females	N.A.	.39	.1089	.06	.33-.45	36	N.A.
Positive Responses	N.A.	.75	.0961	.05	.70-.80	36	N.A.
Giving Directions	N.A.	.15	.1500	.03	.09-.21	36	N.A.
Lecturing	N.A.	.20	.4592	.08	.12-.28	33	N.A.
Justifying Authority	N.A.	.03	.0036	.01	.02-.04	36	N.A.

[a]Not Applicable

Table 3

Zero Order Correlations Among Attitudinal and Behavioral Measures

(N = 33)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Mean	19.9474	22.2439	20.4615	.4033	.3917	.7506	.1442	.1917	.0316
Standard Deviation	5.7373	4.8672	5.7393	.2408	.3287	.3137	.1419	.4611	.0624
(1) Freidin Power	1.0000	.3931**	.1600	.1717	-.0244	-.0859	.0462	-.0660	.2008
(2) Vance Richards		1.0000	.2373	.0356	.2163	.0345	.0166	.2584	.1227
(3) Classroom Simulation			1.0000	.0477	-.0217	.0014	-.0545	-.0949	-.0680
(4) Recognition of Female Volunteers				1.0000	.2153	-.0840	.3127*	.2510	.1755
(5) Directed Questioning of Females					1.0000	-.0553	.2426	.1463	-.0308
(6) Positive Responses						1.0000	.1000	-.0373	-.1451
(7) Giving Directions							1.0000	-.1593	-.2503

Table 3. Continued.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(8) Lecturing								1.0000	.0693
(9) Justifying Authority									1.0000

*Significant at .05

**Significant at .01

Table 4

Linear Relationship Between Attitudinal

and Behavioral Measures

Eigen Value	Canonical Correlation	Wilks Lambda	Chi Square	DF	Significance
.2376	.4874	.6561	11.8013	18	.857

Canonical Variates

Behavior Measures		Attitude Measures	
Recognition of Female Volunteers	.3552	Freidin Power	.5312
		Vance Richards	-1.0871[a]
Directed Questioning of Females	-.1586	Classroom Simulation	.5692
Positive Responses	-.2955		
Giving Directions	-.4538		
Lecturing	-.9516		
Justifying Authority	-.2631		

[a]Note: In small samples coefficients greater than 1 may occur.

Table 5

Zero Order Correlations and Fisher r to z Transformations Among Attitude and Behavior Measures for the High Stereotypic Feminine Group

(N = 17)

	Mean	Standard Deviation	Confidence Intervals	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) Freidin Power	22.4118	5.9693	19.3281-25.4955		.1217	.0941	-.0189	-.2070	-.0738	-.0603	-.1187	.1688
(2) Vance Richards	23.7059	2.8672	22.2247-25.1871	.1207		.1562	-.0277	.0628	.1266	-.3844	.8060	.1646
(3) Classroom Simulation	31.9412	.2796	31.7970-32.0850	.0941	.1552		-.0135	-.1072	-.2209	.0972	-.1999	.0247
(4) Recognition of Female Volunteers	.4529	.2558	.3208-.5850	-.0189	-.0277	-.0135		.3869	.0023	.4134	.2989	.1302
(5) Directed Questioning of Females	.3794	.3391	.2042-.5546	-.2070	.0628	-.1072	.3690		-.0084	.3564	.1880	.0587
(6) Giving Directions	.7176	.3607	.5313-.9039	-.0738	.1256	-.2172	.0023	-.0084		.2220	.0299	-.7660
(7) Positive Responses	.1776	.1779	.0857-.2695	-.0603	-.3667	.0972	.3912	.3422	.2882		-.1727	-.6152
(8) Lecturing	.2043	.6673	-.1404-.5490	-.1779	.6672**	-.1915	.2899	.1860	.0299	-.1707		.2392
(9) Justifying Authority	.0259	.0306	.0101-.0417	.1671	.1633	.0247	-.1292	.0587	-.6447**	-.5480*	.2347	

* Significant at .05

** Significant at .01

Table 6

Zero Order Correlations and Fisher r to z Transformations Among

Attitude and Behavior Measures for the Low Stereotypic Feminine Group

(N = 16)

	Mean	Standard Deviation	Confidence Intervals	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) Freidin Power	18.0625	4.9594	15.4464-20.6786		3341	-.0434	.3311	.2084	-.0344	.0241	.1140	.1175
(2) Vance Richards	19.0625	2.6700	17.6541-20.4709	.3219		.5373	.0310	.3311	.2932	.2136	-.1571	-.0698
(3) Classroom Simulation	30.1875	9.0423	25.4177-34.9570	-.0434	.4910*		.1140	.1256	.3429	-.0961	.2772	-.1973
(4) Recognition of Female Volunteers	.3687	.2106	.2576-.4798	.3192	.0310	.1136		.2002	-.2725	.0513	.3524	.1108
(5) Directed Questioning of Females	.3737	.3218	.2040-.5434	.2054	.3163	.1246	.1975		-.0028	.1130	.1433	-.0217
(6) Giving Directions	.7700	.2771	.6238-.9162	-.0344	.2847	.3299	-.2186	-.0028		.0043	-.4451	-.6495
(7) Positive Responses	.1187	.1010	.0654-.1720	.0241	.2105	-.0961	.0513	.1130	.0043		-.3374	-.4658
(8) Lecturing	.1931	.1381	.1203-.2659	.1136	-.1561	.2702	.3385	.1423	-.4176	-.3239		.5142
(9) Justifying Authority	.0187	.0253	.0054-.0320	.1168	-.0698	-.1948	.1107	-.0217	-.5805**	-.4348*	-.4732*	

*Significant at .05

**Significant at .01

Table 7

z Values for Tests of Significant Differences Between

Fisher r to z Transformed Correlation Coefficients

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) Freidin Power	1.0000								
(2) Vance Richards	.5515	1.0000							
(3) Classroom Simulation	.3570	-.9894	1.0000						
(4) Recognition of Female Volunteers	-.9087	-.1524	-.3310	1.0000					
(5) Directed Questioning of Females	-1.0795	-.6966	-.6044	.4847	1.0000				
(6) Positive Responses	-.1023	-.4325	-1.4638	.5836	-.0145	1.0000			
(7) Giving Directions	-.2193	-1.5526	.5019	.9401	.6319	.5652	1.0000		
(8) Lecturing	-.6042	2.5005*	-1.2387	-.1389	.1161	1.2333	.4276	1.0000	
(9) Justifying Authority	.1332	.6086	.5764	.0504	.2087	.0891	.3878	-.7140	1.0000

*Significant at .05

Table 8

Zero Order Correlations Between Attitude and Behavior Measures

with Descriptive Characteristics of the Sample

(N = 33)

	Grade[a] Level Specialty (1)	Years of Teaching Experience (2)	Number of Periodicals Subscribed To (3)	Number of Club Memberships (4)	Educational[b] Level (5)	Mother's Education Level (6)
Freidin Power	-.2633	-.1723	-.1546	-.2711	.0000	.1904
Vance Richards	.1241	-.1985	-.0390	-.2062	.0000	-.3341*
Classroom Simulation	-.2317	-.1465	.4248**	.0780	-.1778	.0000
Recognition of Female Volunteers	.2508	-.1318	-.2275	-.1301	-.0045	.1362
Directed Questioning of Females	.2268	-.0066	-.1961	-.0834	.0131	-.2028
Positive Responses	.1592	.2129	.2688	.1694	.0000	-.0842
Giving Directions	.1992	-.1592	-.0500	-.1754	.0594	.1769

Table 8 Continued

	Grade[a] Level Specialty (1)	Years of Teaching Experience (2)	Number of Periodicals Subscribed To (3)	Number of Club Memberships (4)	Educational[b] Level (5)	Mother's Education Level (6)
Lecturing	-.1646	.0000	.0162	-.0034	.0000	-.2001
Justifying Authority	.1190	-.0633	.0463	-.0601	.0000	.0000

*Significant at .05

**Significant at .01

[a]Pearson Product Moment Correlations were used for Grade Level Taught (1) through Number of Club Memberships (4) due to the interval nature of these and attitude and behavior measures.

[b]Spearman Rho Correlations were used for Education Level and Mother's Education Level due to ordinal nature of these two variables.

APPENDIX A

SAMPLE DEMOGRAPHIC CHARACTERISTICS

Sample Demographic Characteristics

Student Status

Status	f	%	Cumulative %
Intern	10	30.0	30.0
Extern	11	33.0	64.0
Senior	12	36.0	100.0

Marital Status

Status	f	%	Cumulative %
Married	19	58.0	58.0
Single	14	42.0	100.0

Number of Children

# of Children	f	%	Cumulative %
0	30	91.0	91.0
1	2	6.0	97.0
2	1	3.0	100.0

Geographic Origin

Origin	f	%	Cumulative %
Midwest	1	3.0	3.0
Northeast	11	33.0	36.0
Southeast	17	52.0	88.0
Southwest	6	6.0	100.0
Other	2		

Education Level

Level	f	%	Cumulative %
Senior	12	36.0	36.0
Masters	19	58.0	94.0
DAST	4	6.0	100.0

Mother's Education Level

Level	f	%	Cumulative %
Senior	10	30.0	30.0
Masters	14	43.0	73.0
DAST	9	27.0	100.0

Years Teaching

Years Teaching	f	%	Cumulative %
0	20	61.0	61.0
1	3	9.0	70.0
3	3	9.0	79.0
4	2	6.0	85.0
5	1	3.0	88.0
6	3	9.0	97.0
8	1	3.0	100.0

Level of Teaching

Level of Teaching	f	%	Cumulative %
0	8	24.0	24.0
Elementary	12	36.0	61.0
Junior High	3	9.0	70.0
Senior High	10	30.0	100.0

Number of Clubs Joined

# of Clubs	f	%	Cumulative %
0	13	39.0	39.0
1	12	36.0	76.0
2	5	15.0	91.0
3	2	6.0	97.0
5	1	3.0	100.0

Subject Area of Teaching

Subject Area	f	%	Cumulative %
Other	2	6.0	6.0
Elementary	16	52.0	55.0
English	1	3.0	58.0
History	1	3.0	61.0
Language Arts	1	3.0	64.0
Mathematics	4	12.0	76.0
Math and English	1	3.0	79.0
Science	2	6.0	85.0
Secondary	1	3.0	88.0
Social Studies	4	12.0	100.0

Number of Periodicals Subscribed to

Number of Periodicals	f	%	Cumulative %
0	6	19.0	19.0
1	8	25.0	44.0
2	3	9.0	53.0
3	9	28.0	81.0
4	3	9.0	91.0
5	3	9.0	100.0

APPENDIX B

THE VANCE-RICHARDS VERBAL FLUENCY TEST

THE VANCE-RICHARDS VERBAL FLUENCY TEST

FORM A

Name_____ Today's Date _____

Birth Date _____ Sex _____

School _____ Grade Taught _____

This is a test of how fast you can think. Complete each of the following sentences so that it makes the best sense possible. You may use either a word or a phrase, although a phrase is preferable. Since you will have only a limited time, work quickly. In most cases the best way to answer the test is to put down the first thing that comes to your mind.

EXAMPLE: The unfinished sentence:

"When Ann scored the goal she....."

may be finished by adding "felt good" or "felt bad", "won the game", "told her friend" or "wanted to quit playing" or something like that.

The scores you get depend on how quickly you finish the sentences. Work fast. Do not skip any sentences. This is a speed test. Do not turn the page until told to do so.

1. When Joan thought the job was too much for her, she _____

2. Before an exam, Mary feels _____

3. When Nan thought the odds were against her, she _____

4. When Sue is afraid, she _____

5. Eleanor told Jane that her place is _____

6. Most jobs with responsibility make Nora feel _____

7. Joan thinks a career and marriage _____

8. The reason Lillian tried to get ahead was _____

9. Kate often thinks of herself as a _____

10. When they asked Elisabeth to be in charge, she _____

11. Elise thinks that being a teacher is _____

12. Lauren's vocabulary is _____

13. Showing affection makes Heidi feel _____

14. According to Elaine, athletic women _____

15. Nancy believes most people think of her as _____

16. During a crisis, Denise _____

17. When Helen is offered help _____

18. If June wants to get her way, she'll even _____

19. Joan says that men are _____

20. When Billy is late coming home, his mother _____

21. Karen thinks that professional women _____

22. If an awkward situation requires a tactful solution, Kathy usually _____

_____

23. Suzanne thinks that gentleness _____

24. When Geraldine thinks of marriage _____

25. Cynthia worries about her appearance because _____

26. When someone ignores Nicole, she _____

27. Joan cries _____

28. Sandra's favorite course in school is _____

29. When told she would have to do the whole thing herself, Ruth _____

_____

30. According to Irene, if a person remains poor it is a result of _____

_____

31. When Alice saw others doing better than she, Alice _____

32. When Elizabeth has to entertain, she _____

33. Even when "dumb" people disagree with June, she _____

34. When forced to make decisions, Jackie _____

35. Gwen says that women are _____

36. When Judith has to compete with others, she _____

37. After Madeleine finished the test, she thought that she _____

38. Unplanned vacations make Julie _____

39. If left alone to fend for herself, Anita would be _____

40. Willis' favorite course in school is _____

41. If Wendy doesn't have children _____

42. Conversations with men about personal issues make Elaine feel _____

_____

43. Arguments presented by Jane are usually _____

44. If Sarah has to compete in the business world she _____ _____ _____

45. When Jackie finds herself in a position of leadership _____ _____

46. Jennifer is most relaxed when _____

47. Compared to men, Sally thinks women _____

48. No one notices Emily because she _____ _____

49. When Linda heard that her family's house had burned she _____

_____ _____

APPENDIX C

THE FREIDIN-POWER QUESTIONNAIRE

FREIDIN-POWER QUESTIONNAIRE

Student ID Number _____

Extern _____ Intern _____ Senior _____

Gender (circle) Female Male

Marital Status (circle) Single Married

Number of children _____

Level of Education (circle) College: Junior Senior

Graduate: Master's Program DAST Ph.D.

Place of Birth _____

If raised in the U.S., region of the country in which you were raised

(circle) NE NW SE SW

Formal Education Level of your mother (circle and state year or level)

Elementary School _____, High School _____,

College _____, Graduate _____.

Years Experience Teaching _____

Subject Area _____

Level of Teaching _____

Periodicals you subscribe to _____

_____

Clubs or Organizations of which you are a member _____

_____

1. When I thought the job was too much for me, I _____

2. Before an exam, I feel _____

3. When I thought the odds were against me, I _____

4. When I am afraid, I _____

5. I told Jane that her place is _____

6. Most jobs with responsibility make me feel _____

7. I think a career and marriage _____

8. The reason I tried to get ahead was _____

9. I often think of myself as a _____

10. When they asked me to be in charge, I _____

11. I think that being a teacher is _____

12. My vocabulary is _____

13. Showing affection makes me feel _____

14. I think athletic women _____

15. I believe most people think of me as _____

16. During a crisis, I _____

17. When I am offered help _____

18. If I want to get my way, I'll even _____

19. I say that men are _____

20. When I am late coming home, my mother _____

21. I think that professional women _____

22. If an awkward situation requires a tactful solution, I usually _____

_____

23. I think that gentleness _____

24. When I think of marriage _____

25. I worry about my appearance because _____

26. When someone ignores me, I _____

27. I cry _____

28. My favorite course in school is _____

29. When told I would have to do the whole thing myself, I _____

30. If a person remains poor, it is a result of _____

31. When I see others doing better than myself, I _____

32. When I have to entertain, I _____

33. Even when "dumb" people disagree with me, I _____

34. When forced to make decisions, I _____

35. I believe that women are _____

36. When I have to compete with others, I _____

37. After I finished the test, I thought that I _____

38. Unplanned vacations make me _____

39. If left alone to fend for myself, I would be _____

40. My favorite course in school is _____

41. If I don't have children _____

42. Conversations with men about personal issues make me feel _____

43. Arguments presented by me are usually _____

44. If I had to compete in the business world I _____

45. When I find myself in a position of leadership _____

46. I am most relaxed when _____

47. Compared to men, I think women _____

48. No one notices me because I _____

49. When I heard that her family's house had burned I _____

APPENDIX D

CLASSROOM SIMULATION

CLASSROOM SIMULATIONS

Student I.D. #_____

You are the teacher of a class of fifth graders. There are thirty-two students. Sixteen of the students are girls; sixteen are boys. The students come from a wide range of economic backgrounds. Some come from homes in which the parent(s) are professional people. Others come from families in which the parent(s) are blue and white collar workers. And still others live in a housing project. Some of the children live with both parents, some come from broken homes, and some live with other relatives. There is also a wide range in ability. Several students are quite bright. There are a good number that fall on either side of average. A few have a hard time learning, and one or two might be considered slightly learning disabled.

Each student is named below with a short description.

Martha: is an above-average student. She works hard and does well in the subjects she's interested in. But she finds it hard to concentrate on the subjects she dislikes or in which she hasn't done well before. She is a sweet girl and is always cooperative.

Eddie: is quiet and doesn't volunteer any information about himself or talk with the teacher unless asked. He works well and seldom causes any trouble.

Diane: only likes teachers some days. On those days she is very easy to get along with and seems to enjoy being pleasant. But other days she is moody and either wants to be left alone or is ornery. She is an average student except in her reading and math levels. Both of these areas require special attention.

Tim: is a funny guy. His jokes are usually appropriately timed and give the class a good tension break. He participates in class often. His work is above average.

Rebecca: doesn't reveal much about her personality. She is very quiet. She has a small group of friends. Her school work is slightly below average.

Earl: is a below-average student. He belongs in a special class, but somehow has gotten and remains mainstreamed in the regular classroom. He seems to be in another world.

Betsy: is very out-going. She is friendly to everyone including the teacher(s). Everyone likes Betsy. She works hard at her school work most of the time, but occasionally must be called down for talking.

Adam: is the smartest boy in the classroom. He is capable of very abstract thinking, and has a vocabulary which sounds quite like an adult's. This able person seems to be a threat to many of the other children. Adam is sensitive to the reaction of the other kids and often cries when he senses that the others are not liking his behavior.

Barbara: is always cooperative, too. She is a bright student and generally does well in all subject areas.

Steve: is an excellent student. He is quite an active boy, but always pleasant and jokes a lot. Occasionally he gets over zealous.

Susan: is a very good student. She is well-organized and finishes her work on time if not ahead of time. She loves to do things for teacher; grading, recording grades, putting up bulletin boards, etc.

Jeff: is quite good looking and is followed around by the girls, but he is very modest and pays little attention to them. He is an average student. His interests don't lie in reading or schoolwork. He is very interested in cars.

Roseann: is a good student. She is always willing to do things for the teacher, but does not offer on her own. She seems to act like a "tomboy" when on the playground, participating in games most of the other girls shy away from, such as soccer and baseball.

Ben: is a lot of fun to have in class. He adds a spark to class. He is friendly, but academics are not his bag. He is of average intelligence, but isn't interested in school.

Joan: is a very defensive girl. As long as the teacher is positive bowards her, Joan will usually be positive. But if she is asked to be quiet or do something she doesn't want to do, she gets very defensive and makes comments back to the teacher. She can be very irritating at times, but at other times she is a joy to work with. Joan's work is average.

Doug: is below average, although not extremely so. The teacher hardly knows he's in class, but the girls do. He is not too interested in schoolwork, but usually turns in assignments on time.

Lisa: like Gwen, is unable to do a lot of fifth grade work. She reads on a third grade level. Lisa tries very hard to do good work, and this is refreshing. She is easy to work with for this reason. She, too, needs more chance to succeed.

Will: is shy and has a dumb look on his face. But this is deceiving, since he is very bright. He loves to read, and enjoys science.

Lynda: loves to help do things. She is a below-average student. She tries most of the time, but is obviously discouraged from constantly making low grades.

Lewis: is an average student but is very immature socially. He cannot complete his work without some encouragement from his teacher. He whines and cries when told to do something that he does not feel confident about. Lewis often plays with the girls at recess, and seems to feel more comfortable spending his time with them.

Gwen: has a pleasant personality. She has a very low I.Q. level, and is not capable of doing a lot of fifth grade work. She needs to feel important and have her confidence boosted.

Bill: is a very bright student. He is shy, particularly with adults. But he is willing to do just about anything he is asked to do. Bill often draws violent pictures, and seems to use this medium to express some inner tension that is not communicated verbally.

Sandy: loves to help do things. She is a below-average student.

Monte: is a very intelligent boy who enjoys the stimuli his school has to offer. He converses easily with adults and enjoys the special attention he seems to receive from his teachers. Monte is liked by most of the class members and is often chosen to act as a leader.

Wendy: is a quiet girl. She is an above-average student. She is always pleasant but doesn't usually talk to the teacher on her own initiative.

Walker: is the class clown. He would rather do anything than school work. His attention span or interest is quite short. Though he is fairly pleasant, he'll try anything to get out of work.

Lynne: is Wendy's best friend. She, too, is well above average as a student. Lynne is also very quiet but quite pleasant when approached.

Mickey: is a good student, but does not put forth as much effort as he could. His interests are not in academics, but sports. He is popular with the rest of the class, and is often given a leadership role by his peers. Mickey is often punished by his teacher for talking out of turn and so loudly that it disrupts the classroom.

Jackie: is very, very shy. She is glad to do anything that she is asked to do, as long as it does not require getting up in front of the class. Jackie takes great pride in her work. Everything she does is extremely neat. She is an above-average student.

Joey: is a very quiet person. He is intelligent and enjoys school work. He is artistic and creates very amusing cartoons. He seems to be unsure of himself when speaking and does not act as if he knows how talented he is. Many of the boys like Joey; however, they often tease him and order him to do things he really does not want to do.

Terri: is of average intelligence. She is undisciplined about turning in her work. She is moody. Sometimes she is willing to do things; other times she is whiney and "tired."

Richard: is an average student. He is good looking and knows it. However, he is always pleasant to the teacher and is helpful.

Classroom Simulation

You are planning a social studies unit on occupational choices. Assign at least two students to research and report to the class about each of the following jobs.

Accountant:

Audiologist:

Bus Driver:

Carpenter:

College Professor:

Dental Hygienist:

Dentist:

Dietician:

Hair Dresser:

Lawyer:

Librarian:

Managerial Consultant:

Medical Doctor:

Minister:

Nurse:

Plumber:

Physical Therapist:

Store Clerk:

Elementary Teacher:

High School Teacher:

APPENDIX E

ROOTS OBSERVATIONAL ANALYSIS TEST

ROOTS' OBSERVATIONAL ANALYSIS TEST

Student I.D. _____ Date _____

Beginning Time _____ Subject _____

Ending Time _____ # Males _____ # Females _____

	Teacher Recognition of Student Volunteers		Teacher Directed Questioning		Positive or Negative Response		Elaboration by Teacher	
	M	F	M	F	+	-	Y	N
1.								
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
12.								
13.								
14.								
15.								

APPENDIX F

FLANDERS INTERACTION ANALYSIS

OBSERVATION RECORD SHEET
FLANDERS INTERACTION ANALYSIS

Observed _____ Completion Time _____

Observer _____ Subject Area _____

Observation Number _____ Topic _____

Beginning Time _____ Date _____

	Silence or Confusion 1	Pupil-Talk Initiation 2	Pupil-Talk Response 3	Criticizing or Justifying Authority 4	Giving Directions 5	Lecturing 6	Asks Questions 7	Accepts or Uses Ideas of Pupils 8	Praises or Encourages 9	Accepts Feelings 10
1.										
2.										
3.										
4.										
5.										
6.										
7.										
8.										
9.										
10.										
11.										
12.										

COMMENTS: